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In re Patent Application of:
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For: APPARATUS FOR PROCESSING DISPLAYED DATA AND METHOD THEREOF Examiner: J. E. Lesperance

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An apparatus for processing displayed data in a system having a computer for processing data and a display device with an amplifier for amplifying input signals from the computer, the apparatus comprising:

~~a Micom for controlling the display device, and outputting a selection signal and a vertical synchronizing signal in dependence of the operation of the computer;~~

~~a comparator for comparing the selection signal with the vertical synchronizing signal, each being outputted from the Micom, and outputting a storage related signal; and~~

~~a memory for saving an image signal corresponding to the storage related signal generated as an output signal from the comparator.~~

a memory having plural storage sections;

a Micom configured to control the display device, and to output a selection signal and a vertical synchronizing signal; and

a comparator configured to compare the selection signal with the vertical synchronizing signal, and to output a storage related signal to the micom, and wherein the micom is configured to use the storage related signal to determine a storage section in the memory for storing an image signal corresponding to the selection signal.

2. (Currently Amended) An apparatus for processing displayed data in a system having a computer for processing data and a display with an amplifier for amplifying input signals from the computer, the apparatus comprising:

~~a Micom for controlling the display, outputting a selection signal and generating a synchronizing signal in dependence of the operation of the computer, and outputting a storage related signal in dependence of a comparison result; and~~

~~a memory for saving an image signal corresponding to the storage related signal generated as an output signal from a comparator.~~

a Micom configured to control the display, to output a selection signal and to generate a vertical synchronizing signal, and to output a storage related signal corresponding to a comparison of the selection signal and the vertical synchronizing signal; and

a memory configured to save an image signal corresponding to the selection signal in accordance with the storage related signal.

3. (Previously Presented) The apparatus according to claim 1, wherein the selection signal is generated in response to a storage command signal externally generated by a user.

4. (Currently Amended) The apparatus according to claim 1, wherein the selection signal is automatically generated by the Micom when a malfunction of the computer is detected.

5. (Currently Amended) The apparatus according to claim 1, further comprising:

an A/D converter, under the control of the Micom, ~~for converting~~configured to convert an analog image signal outputted from a preamplifier of the display device to a digital image signal, and ~~for transmitting~~to transmit the digital image signal to the memory.

6. (Previously Presented) The apparatus according to claim 1, wherein the image signal saved in the memory is a digital image signal outputted from an A/D converter, equipped in the display device, by controlling of the Micom.

7. (Original) The apparatus according to claim 1, wherein the Micom is arranged to display the image signal saved in the memory to the display device if a restoration command signal is input to the Micom,.

8. (Original) The apparatus according to claim 1, wherein the comparator is arranged to compare the selection signal with the vertical synchronizing signal, each being outputted from the Micom, and if logic levels of both signals are same, output a storage command signal.

9. (Previously Presented) The apparatus according to claim 1, wherein the Micom is arranged to output a vertical synchronizing signal when an horizontal/vertical synchronization signal is not input to the display device when the computer is under normal operation, or when a terminal output signal indicates that a connection between the computer and a monitor is under open state.

10. (Original) The apparatus according to claim 8, wherein the comparator is arranged to compare the selection signal with a vertical fly back pulse signal.

11. (Original) The apparatus according to claim 8, wherein the comparator is arranged to output the storage related signal when the selection and vertical synchronizing signals outputted from the Micom are both high or low.

12. (Original) The apparatus according to claim 8, wherein the Micom is arranged to save the image signal in the memory in response to a first command signal outputted from the comparator, and end storage of the image signal in response to a second command signal outputted from the comparator.

13. (Previously Presented) The apparatus according to claim 12, wherein the Micom is arranged to save the image signal in the memory by outputting a storage start signal with respect

to the image signal when the first command signal is input from the comparator, and the Micom is arranged to end storage of the image signal by outputting a storage end signal when the second command signal is input from the comparator.

14. (Original) The apparatus according to claim 13, wherein a storage section corresponds to a period of the vertical synchronizing signal, and is a section of an image signal corresponding to one frame displayed on a full monitor screen.

15. (Currently Amended) An apparatus for processing displayed data in a system having a computer for processing data and a display device with an amplifier for amplifying input signals from the computer, the apparatus comprising:

~~a Micom for controlling the display, and outputting a selection signal and a vertical synchronizing signal in dependence of the operation of the computer;~~

~~a comparator for comparing the selection signal with the synchronizing signal, each being outputted from the Micom, and outputting a storage related signalsection;~~

~~a memory for saving an image signal corresponding to the storage related signal generated as an output signal from the comparator;~~

a memory having plural storage sections

a Micom for configured to control the display, and to output a selection signal inputted by user and to output a vertical synchronizing signal;

a comparator configured to compare the selection signal with the vertical synchronizing signal and to output a storage related signal to the micom, and wherein the micom is configured to use the storage related signal to determine a storage section in the memory for storing an image signal corresponding to the selection signal;

an A/D converter, under the control of the Micom, ~~for converting~~configured to convert input analog image signals from the amplifier of the display device to digital image signals; and

a scaler ~~for converting~~configured to convert an input signals from the A/D converter to a displayable format.

16. (Currently Amended) The apparatus according to claim 15, further comprising:

a clock generator, connected to the A/D converter and scaler, configured for signal synchronization or tuning.

17. (Currently Amended) The apparatus according to claim 15, wherein the Micom and the comparator ~~can be made~~are [[as]]separate components, or the Micom ~~performs~~ is configured to perform the function of the [[a]]comparator.

18-19. (Canceled)

20. (Currently Amended) A method for processing displayed data in a system having a computer for processing data and a display device with an amplifier for amplifying input signals from the computer and a controller, the method comprising the steps of:

receiving a storage command signal; and

~~in response to a selection signal generated by the storage command signal and a vertical synchronizing signal, said storage command signal being dependent on an operational state of the computer, storing an image signal displayed on the display device in a memory.~~

comparing the storage command signal and a vertical synchronizing signal to generate a selection signal that identifies a storage section in a memory to store an image signal corresponding to the storage command signal; and

storing the image signal in the storage section in accordance with the selection signal.

21. (Original) The method according to claim 20, wherein the step of storing the displayed image signal in the memory comprises substeps of:

outputting the selection signal;

comparing the selection signal with the vertical synchronizing signal, and outputting a storage signal when the two signals are both high or low; and

in response to the outputted storage related signal, starting storage of the displayed image signal and/or ending storage of the displayed image signal.

22. (Currently Amended) A method for processing displayed data in a system having a computer for processing data and a display device with an amplifier for amplifying input signals from the computer and a controller, the method comprising the steps of:

receiving a storage command signal;

~~in response to a selection signal generated by the storage command signal and a vertical synchronizing signal in dependence of an operational state of the computer, storing an image signal displayed on the display device in a memory;~~

comparing the storage command signal and a vertical synchronizing signal to generate a storage section selection signal;

storing an image signal displayed on the display device in a storage section of a memory corresponding to the storage section selection signal;

receiving a restoration command signal of data stored in the memory; and

reading an image signal stored in the memory, and displaying the image signal on the display device.

23. (Original) The method according to claim 22, wherein the step of reading the image signal stored in the memory and displaying the image signal on the display device comprises substeps of:

in response to the restoration command signal, transmitting the image signal stored in the memory to the computer, amplifier or scaler; and

displaying the transmitted image signal on a screen of the display device.

24. (Original) The method according to claim 23, wherein the step of transmitting the image signal stored in the memory to the computer comprises substeps of:

converting the received image signal;

receiving an image signal retransmitted from the computer; and

displaying the retransmitted image signal from the computer on the screen of the display device.

25. (Original) The method according to claim 24, further comprising the steps of:

in the computer, receiving the transmitted image signal and converting the image signal to an adequate image signal for transmitting to the display device; and

transmitting the converted image signal to the display device.

26. (New) An apparatus for processing displayed data in a system having a computer for processing data and a display device with an amplifier for amplifying input signals from the computer, the apparatus comprising:

a memory including plural storage sections;

a Micom configured to control the display device, and to output a selection signal and a vertical synchronizing signal; and

a comparator configured to compare the selection signal with the vertical synchronizing signal and, if logic levels of the selection signal and the vertical synchronizing signal are equal, output a first command signal identifying a storage section in the memory, and wherein the Micom is arranged to save an image signal corresponding the selection signal in the storage section in response to the first command signal, and to end storage of the image signal in response to a second command signal outputted from the comparator.

27. (New) An apparatus for displaying an image signal produced by a device, the apparatus comprising:

a memory including plural storage sections;

a micom configured to control the apparatus, and to output a vertical synchronizing signal inputted from the device and a selection signal generated from the apparatus; and

a comparator configured to compare the selection signal with the vertical synchronizing signal and output a storage related signal to the micom identifying a storage section for storing an image signal corresponding to the selection signal.